PTO

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Screw Jack Socket

Field of the Invention

The invention resides in the field of scaffolding and particularly in making adjustments in the various sections of the scaffolding to place the different sections at the desired respective levels relative to other sections to produce an entire level scaffolding.

In the case of most scaffolding, it is erected to rest on the ground and it is built up in various levels according to the height of the work to be done, as in building a house.

In many cases, the ground on which the structure is to be built is not level, and on different sides of the structure, the ground would be higher on one side than another side, or in one location relative to another location, and jacks are utilized for leveling the scaffolding notwithstanding the different levels of the ground.

Heretofore the jacks were adjusted by manually manipulating them, but this was very slow and tedious work.

Many times the extent to which the jack is adjusted, may be a foot, a foot and a half, or more, and to make the desired adjustments of the jacks to

this extent requires an objectionable length of time.

A main object of the present invention is to provide a socket for applying to the jacks and driven by a power drill at a relatively high speed so as to adjust the various jacks to the desired respective heights according to the non-level condition of the ground.

Another object of the invention is to provide a socket of the type referred to that is very easy to apply to the jack in position for adjusting the jack.

It is very light in weight, which facilitates its use.

It includes a design, and construction, to readily adapt it to jacks that are universally in use at the present time.

It has an entirely clear interior, without obstruction, to easily and quickly be fitted over the corresponding component of the jacks, which is of substantial length.

Brief Description of the Individual Figures of the Drawings

Fig 1 is a side view of the device of the invention.

Fig 2 is perspective view of the lower portion of the device, taken at an angle indicated at the arrow 2 in Fig 1.

Fig 3 is a perspective view of the upper end portion of the socket, as indicated by the arrow 3 of Fig 1.

Fig 4 is a perspective view of a portion of a scaffolding erected in position for use.

Fig 5 is a face view of the lower portion of Fig 4, oriented according to the arrow 5 of Fig 4.

Fig 6 is a perspective view of a jack of known kind used in the scaffolding of Figs 4 and 5.

Fig 7 is a face view of a socket shown in Fig 1 applied to the jack, and with an electric cordless drill applied to the socket.

Fig 8 is a sectional view taken at line 8-8 of Fig 1.

Fig 9 is an exploded view of the elements making up a different form of socket.

Fig 10 is a sectional view, oriented according to Fig 8, of the form of the upper end of the socket of Fig 9.

Detailed Description of the Drawings

Fig 1 is a side view of a socket 20 made according to the present invention. The socket includes a tube or barrel 21, which is of a length for accommodating the jack as referred to below. At the top of the tube is a cap 22 and at the bottom end, the tube is provided with two notches 24 opening out through the end, and extending longitudinally into the tube a short distance, such as an inch

or two. These notches are preferably two in number and disposed at opposite sides of the tube along a common diameter 26, as shown in Fig 2.

The tube 20 is of uniform diameter from the bottom end up to the cap 22 and entirely unobstructed, by any protrusions, or elements in the interior, leaving the tube entirely hollow.

In the preferred form of device, the tube and the cap are molded together into a single integral piece as shown in Fig 8, the tube 20 extending into the cap and becoming integral therewith. The cap has a lower portion (as oriented in Figs 1, 8) 28 next to the tube 20 and an upper portion 30 which is slightly larger in diameter than the lower portion 20, providing great strength for maintaining the integrity and shape of the tube as well as to hold the drill bit 32, described below.

All of the socket, except the drill bit 32, is made of plastic, preferable of pvc type plastic. This plastic is of known kind and need not be described in detail.

The drill bit 32 is of steel and is of non-circular shape. Its lower portion is embedded in the material of the cap, and its upper portion extends upwardly through the end of the cap, and thus out of the socket.

This drill bit is adapted for application thereto of a drill 34 (Fig 7), which is preferably cordless, and is of known kind. It is of a suitable size to firmly grip the drill bit for rotating the entire socket, when applying it to the jack and operating the jack.

Having thus far described the socket itself, attention is directed to the scaffolding with which it is used. This scaffolding, in Figs 4 and 5, is indicated at

40. The scaffolding is of known kind, having pipes 42 forming legs at spaced apart locations. The legs of course are hollow, and the jacks 44 (Figs 4, 5, 6) are inserted in the lower ends thereof. Such a jack is shown in Fig 6 and is of known kind. It includes a base plate 46 on which the lower end of a threaded shaft 48 is secured, which extends upwardly.

Threaded on the shaft 48 is a support 50, which includes a pair of fingers 54, radiating on a common diameter 56.

The scaffolding is shown set up in position on the ground with the jacks 44 inserted in the posts 42 and resting on the ground.

Fig 5 shows a ground surface 57 having a high spot 58 and a low spot 60. The dot-dash line 62 indicates a level plane including the high spot, and of course through the middle of the jack on the low spot. The jack, at the left, on the low spot, is in elevated position so as to place the lower end of the pipe thereon on a level 64, which contains lower end of the jack on the high level.

The foregoing description of the scaffolding, as indicated above, is well known, and in setting up the scaffolding, the jacks are placed at the locations where the pipes of the scaffolding will be located, and all of them are turned up or down, in order that the fingers 54 will all be at as close to common level plane as can be determined by visual judgment.

Heretofore, the jacks were so adjusted manually which is extremely time consuming. The purpose of the device of the present invention is to perform this step in the setting-up operation at a much greater speed. For performing this

step according to the present invention, the socket 20 is placed over the jack as represented in Fig 7. It is fitted down on the jack with the fingers 54 inserted in the notches 24 and this will provide a complete interlock between the socket and the support 50. Thereupon, the drill 34 is energized, and thus turning the socket at a spinning speed, and this turns the device 50 at a corresponding speed and lifts or lowers the support 50 accordingly. In this step, it is determined by observation of the surrounding ground what a common height will be so that all of the supports 50 will be as close as possible to a common height. Thereupon, the scaffolding is put in place. As this step progresses, and if it is found that certain jacks are not at an optimum height, the operator then manually a adjusts the support 50 and until it reaches the exact level plane with the other jacks.

In order to fully appreciate the nature of the device, and its use, and the result in the scaffolding as intended, the following is a description of various ones of the dimensions of the device, compared with those of the scaffolding itself.

The fit between the vertical posts 42 and the jack 44 is very snug. The dimensions of these parts vary according to the scaffold manufacturers preferably, however, most jacks 44 range from 1"-2.5" in diameter. With the vertical posts 42 being slightly larger to perform a tight fit around the jack once it is inserted. In the case of the socket 20, the tube 21 may be of larger dimensions than the jack 44, to ensure that it can be universally used on many different sized jacks 44. The approximate outer diameter of the socket 20 is 3"-3.5" with the inner diameter being 2.5"-3".

The commonly known jack 44 may be in the neighborhood of two feet in height (as viewed in Fig 6). Accordingly, the tube 21 of the jack is of nearly that height.

In performing the operation, the socket is over the threaded shaft 48 and pushed down thereon until the lower end of the tube engages the support 50. It is turned, if necessary, to align notches 24 with the fingers 54 so that an interlock is established, and then the socket is operated to turn the support 50 in the proper direction.

The hollow character of the tube 21 ensures that the socket can easily be inserted over the threaded shaft. The shaft may be on the order of 1.25" in diameter, and the tune 21 is substantially greater than that. It is not necessary to establish perfect alignment, but simply to fit it over the threaded shaft.

Attention is now directed to the alternate form of Figs 9 and 10, in which the device 69 is made up of separate parts later secured together.

A tube 70 is similar to the tube 21 from the bottom up to the top but has an opening at the top. A cap 72 having a top element 74 and a surrounding depending skirt 76. The top element has a center hole 78 receiving the drill bit 32, and the cap with the drill bit as a unit is glued to the upper end of the tube at 80. The tube and cap are of plastic and the drill bit is of steel.

End of Descriptive Specification